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ATTACHMENT A

The table below is an overview guide to the data contained in tabular format requested by the Ruling:

Tab #	Title	Description
1	(1) RAMP Risk Events	<p>Provides an overview of each risk event and where the following information can be found:</p> <p><u>RAMP</u> Executive Summary, Overview, and Risk Definition Risk Assessment Risk Bowtie</p> <p><u>GRC</u> Introduction Risk Bowtie PG&E's Response to RAMP Comments Changes to Mitigations and Controls RAMP to GRC Integration and RAMP to GRC RSE Comparison</p>
2	(2) Cross-Cutting Factors	<p>Identifies each cross-cutting factor in the 2020 RAMP and provides references to where the following information can be found</p> <p><u>RAMP</u> Overview and Risk Modeling Changes since the 2017 RAMP Impacts to 2020 RAMP Risks Mitigation and Control Information</p> <p><u>GRC</u> Risk Overview Responding to RAMP Feedback Changes to Mitigations and Controls Updates to the MAVF</p>
3	(3) Other Safety Risks	<p>Index of Other Safety Risks included in the 2020 RAMP filing and references to their Exhibit and Chapter in the 2023 GRC</p>

Tab #	Title	Description
4-15	RAMP Risk Event Tabs	<p>A tab for each risk event that identifies Risk IDs, MWCs, and MATs used in RAMP and the GRC and linking the two by providing where the following information can be found:</p> <p><u>RAMP</u> Mitigation Information and mapping Planned Work, Estimated Costs and RSEs Mitigation Plans, Changes to Plans, and Analysis Location of Supporting Workpapers in the 2020 RAMP</p> <p><u>GRC</u> RAMP to GRC integration Mitigation Forecasts and RSEs Mitigation Description Location of Supporting Workpapers in the 2023 GRC</p>

(End of Attachment A)

ATTACHMENT B

**PG&E's 2020 Risk Assessment and Mitigation Phase
RAMP Risk Events**

Line No.	Tab #	PG&E Risk Event Name (A)	2020 RAMP Chapter	2020 RAMP Report					2023 GRC						
				Executive Summary/ Introduction	Risk Overview	Risk Definition	Risk Assessment (PG&E's Enterprise Risk Model - MAVF)	Risk Bowtie	2023 GRC Exhibit and Chapter	Introduction/ Risk Overview	Risk Bowtie	Responding to RAMP Report Feedback	Changes to Mitigations and Controls	RAMP to GRC Integration	Comparing RSEs: 2020 RAMP to 2023 GRC
1		Enterprise and Operational Risk Management - Applies to All Risk Models	3	3-1 to 3-3	N/A	3-2 to 3-3	3-3 to 3-41, 3-41 to 3-42, 3-42 to 3-55, July 17, 2020 WPs; PG&E Enterprise Risk Model Documentation and User Guide	3-15 to 3-21, 3-41 to 3-42	Exh. 2, Ch. 1	1-15 to 1-22	N/A	1-16 to 1-19 and WP 1-12 and WP 1-12, pages 51-61 (EORM-specific issues)	1-16 to 1-18	1-21 to 1-22	1-19 to 1-20
2	4	Loss of Containment on Gas Transmission Pipeline	7	7-1 to 7-2	7-2 to 7-4	7-4	7-4 to 7-16	7-6	Exh. 3, Ch. 3	3-9 to 3-10	3-11	3-11 to 3-13, WP 1-12, pages 42-50	3-15 to 3-16	3-13 to 3-15	3-14
3	5	Loss of Containment on Gas Distribution Main or Service	8	8-3 to 8-4	8-4 to 8-6	8-6	8-6 to 8-20	8-8	Exh. 3, Ch. 3	3-17	3-18	3-18 to 3-20 and (PG&E-2), WP 1-12, pages 42-50	3-22 to 3-23	3-20 to 3-22	3-21
4	6	Large Overpressure Event Downstream of Gas Measurement and Control Facility	9	9-3 to 9-4	9-4 to 9-5	9-5	9-5 to 9-16	9-7	Exh. 3, Ch. 3	3-23 to 3-25	3-25	3-26 to 3-27 and (PG&E-2), WP 1-12, pages 42-50	3-29 to 3-30	3-27 to 3-28	3-28
5	7	Wildfire	10	10-1 to 10-3	10-3 to 10-5	10-5	10-5 to 10-21	10-8 to 10-9	Exh. 4, Ch. 3	3-14 to 3-18	3-17 and 3-18	3-18 to 3-19 and (PG&E-2), WP 1-12, pages 1-42	3-19 to 3-20	3-21 to 3-24	3-29 to 3-32
6	8	Failure of Electric Distribution Overhead Assets	11	11-1 to 11-2	11-3	11-3	11-3 to 11-13	11-6	Exh. 4, Ch. 3	3-32 to 3-34	3-34	3-34 to 3-35 and (PG&E-2), WP 1-12, pages 1-42	3-35 to 3-36	3-36	3-37
7	9	Failure of Electric Distribution Network Assets	12	12-1 to 12-2	12-2 to 12-3	12-3	12-3 to 12-10	12-5	Exh. 4, Ch. 3	3-38 to 3-40	3-40	3-40 to 3-41 and (PG&E-2), WP 1-12, pages 1-42	3-41	3-41 to 3-42	3-42
8	10	Large Uncontrolled Water Release (Dam Failure)	13	13-3 to 13-4	13-4 to 13-6	13-6	13-7 to 13-18	13-8	Exh. 5, Ch. 2	2-4 to 2-7	2-6	2-9 to 2-10 and (PG&E-2), WP 1-12, pages 50-51	2-10 to 2-11	2-7 to 2-8	2-12
9	11	Real Estate and Facilities Failure	14	14-2 to 14-3	14-4	14-5	14-5 to 14-12	14-6	Exh. 7, Ch. 5	5-26	5-29	5-26 to 5-28 and (PG&E-2), WP 1-12, pages 66-67	5-30 to 5-32	5-28 to 5-29	5-32
10	12	Third Party Safety Incident	15	15-3 to 15-4	15-4 to 15-7	15-7	15-7 to 15-13	15-8	Exh. 7, Ch. 1			1-27 to 1-29 and (PG&E-2), WP 1-12, pages 63-66	1-29 to 1-20	1-26 to 1-29	1-31
11	13	Employee Safety Incident	16	16-1 to 16-2	16-2 to 16-5	16-5	16-6 to 16-13	16-7	Exh. 7, Ch. 1	1-25 to 1-26	1-26	1-33 to 1-34 and (PG&E-2), WP 1-12, pages 63-66	1-34 to 1-36	1-32 to 1-34	1-36
12	14	Contractor Safety Incident	17	17-3 to 17-4	17-4 to 17-6	17-6	17-6 to 17-11	17-7	Exh. 7, Ch. 1	1-32	1-33	1-37 and (PG&E-2), WP 1-12, pages 63-66	1-37 to 1-38	1-35 to 1-36	1-39
13	15	Motor Vehicle Safety Incident	18	18-1 to 18-2	18-2 to 18-3	18-3	18-3 to 18-10	18-5	Exh. 7, Ch. 1	1-35 to 1-36	1-36	1-40 to 1-41 and (PG&E-2), WP 1-12, pages 63-66	1-42 to 1-43	1-40 to 1-41	1-44
14	2	Information Technology (IT) Asset Failure (B)	20						Exh. 7, Ch. 8	1-40 to 1-41	1-41	N/A	8-12 to 8-19	8-12	N/A

Notes:

(A) PG&E identified its 12 RAMP Risks by applying the methodology in the S-MAP Settlement Decision (D. 18-12-014, Attachment A, Step 2A, p. A-8 to p. A-9). PG&E also included risk events whose Safety Risk Scores were within 20 percent of the 40 percent threshold set forth in the S-MAP Settlement Decision. (See PG&E's 2020 RAMP Report, p. 1-10).

(B) IT Asset Failure was presented as a cross-cutting factor in the 2020 RAMP Report. Following the 2020 RAMP, PG&E designated IT Asset Failure as both a cross-cutting factor and a risk event.

The information about where IT Asset Failure information is located in the 2020 RAMP Report is on the "Cross-Cutting Factors" tab in this workbook.

**PG&E's 2020 Risk Assessment and Mitigation Phase
Cross-Cutting Factors**

			2020 RAMP Report (Page No. 20-AtchA)					2023 GRC				
					Changes Since the 2017 RAMP	Impacts to 2020 RAMP Risks	Mitigations and Controls	2023 GRC Exhibit and Chapter	Risk Overview	Responding to RAMP Report Feedback	Changes to Mitigations and Controls	Updates to PG&E's MAVF
Line No.	Cross-Cutting Factor (A)	2020 RAMP Chapter	Overview	Risk Modeling	2017 RAMP							
1	Climate Change	20, AtchA	1	2 to 7	8 to 11	7	11	Exh. 2, Ch. 4	4-4 to 4-8	(PG&E-2), WP 1-12, pages 62-63	N/A	4-6
2	Cyber Attack	20, AtchA	11 to 12	12	13 to 19	12 to 13	19 to 23	Exh. 7, Ch. 9	9-12 to 9-13	N/A	9-13 to 9-19	N/A
3	Emergency Preparedness and Response	20, AtchA	23 to 25	26	27	26 to 27	27 to 35	Exh. 4, Ch. 5	5-8 to 5-9	N/A	5-9 to 5-15	N/A
4	Information Technology Asset Failure (B)	20, AtchA	36 to 38	38 to 39	41	39 to 41	41 to 43	Exh. 7, Ch. 8	N/A	N/A	N/A	N/A
5	Physical Attack	20, AtchA	44	44	45 to 46	46	46 to 49	Exh. 7, Ch. 9	9-23 to 9-25	9-32	9-25 to 9-31	9-32
6	Records and Information Management	20, AtchA	49 to 50	50	51 to 52	50 to 51	52 to 57	Exh. 7, Ch. 7	7-11	7-11 to 7-12, (PG&E-2), WP 1-12, pages 65-66	7-12 to 7-20	N/A
7	Seismic	20, AtchA	57 to 59	59 to 60	62	60 to 62	63 to 64	Exh. 7, Ch. 10	10-3 to 10-7	(PG&E-2), WP 1-12, page 67		10-7 to 10-9
8	Skilled and Qualified Workforce	20, AtchA	64 to 65	65 to 66	66 to 67	66	67 to 71	Exh. 8, Ch. 6	6-12 to 6-13	6-13, (PG&E-2) WP 1-66	6-15 to 6-19	6-14

Notes:

(A) Cross-cutting factors are items on PG&E's Corporate Risk Register (CRR) that are not risk events themselves but rather impact either the likelihood or consequence of the risk events.

(B) IT Asset Failure was presented as a cross-cutting factor in the 2020 RAMP Report. Following the 2020 RAMP, PG&E designated IT Asset Failure as both a cross-cutting factor and a risk event. The information about where IT Asset Failure information is located in the 2023 GRC is on the "RAMP Risk Events" tab in this workbook.

**PG&E's 2020 Risk Assessment and Mitigation Phase
Other Safety Risks**

Line No.	Other Safety Risks (A)	2020 RAMP	2023 GRC Exhibit and Chapter
		Chapter and Page	
1	Aviation - Fixed Wing Incident	19-3	Exhibit 7, Chapter 2
2	Aviation - Helicopter Incident	19-4	Exhibit 7, Chapter 2
3	Failure of Electric Distribution Underground Assets	19-5	Exhibit 4, Chapters 11 and 13
4	Failure of Substation Assets	19-8	Exhibit 4, Chapter 15
5	Failure of Electric Transmission Overhead Assets	19-10	Transmission is not part of the GRC filing
6	Failure of Electric Transmission Underground Assets	19-12	Transmission is not part of the GRC filing
7	Hazardous Materials Release	19-14	Exhibit 7, Chapter 6
8	Loss of Containment on Compressed Natural Gas Station Equipment	19-15	Exhibit 3, Chapter 6
9	Loss of Containment on Gas Customer Connected Equipment	19-16	Exhibit 3, Chapters 4, 8, 10, 13
10	Loss of Containment at Gas Measurement and Control or Compression and Processing Facility	19-17	Exhibit 3, Chapters 6, 8, 9, 10, 11
11	Loss of Containment at Natural Gas Storage Well or Reservoir	19-22	Exhibit 3, Chapters 7, 8, 9, 10
12	Loss of Containment on Liquefied Natural Gas/Compressed Natural Gas Portable Equipment	19-24	Exhibit 3, Chapter 5
13	Nuclear Core Damaging Event	19-25	Exhibit 5, Chapter 2, 3

Notes:

(A) In its 2020 RAMP Report PG&E provided information about 13 additional safety risks on its Corporate Risk Register that did not qualify as RAMP Risks based on the S-MAP Settlement Decision criteria.

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Loss of Containment, Transmission Pipeline

2020 RAMP Report											2023 GRC									
		2020 RAMP RISK ID			2020 RAMP MAT	2023 GRC MAT	2020 RAMP Ch.	Mitigation Mapping Table	Mitigations: Planned Units of Work	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Mitigation Analysis	Financial Workpapers	Modeling Workpapers	2023 GRC Exh. 3, Ch.	RAMP to GRC Risk Integration	Mitigation Forecast Costs and RSEs	Mitigation Description	Financial Workpapers	Modeling Workpapers
1	Vintage Pipe Replacement	M3	Vintage Pipe Replacement	LOCTM-M001	75E	75E	7	7-18	7-26, 7-27	7-23 to 7-24	7-28	7-29 to 7-30	June 30, 2020: RAMP_Ch 7_WP Pkq	July 17, 2020: GO-LOCT	5	5-137 to 5-145	5-145	5-72 to 5-80	WP 3-14	Data Response ED_001_Supp001 : GO-LOCTM
2	Shallow Pipe	M5	Shallow and Exposed Pipe (Inc. Water and Levee Crossing)	LOCTM-M002	75M	75M	7	7-18	7-26, 7-27	7-24 to 7-25	7-28	7-29 to 7-30	June 30, 2020: RAMP_Ch 7_WP Pkq	July 17, 2020: GO-LOCT	5	5-137 to 5-145	5-145	5-119 to 5-127	WP 3-14	Data Response ED_001_Supp001 : GO-LOCTM
3	Exposed Pipe	M6	Shallow and Exposed Pipe (Inc. Water and Levee Crossing)	LOCTM-M002	75T	75T	7	7-18	7-26, 7-27	7-24 to 7-25	7-28	7-29 to 7-30	June 30, 2020: RAMP_Ch 7_WP Pkq	July 17, 2020: GO-LOCT	5	5-137 to 5-145	5-145	5-119 to 5-127	WP 3-14	Data Response ED_001_Supp001 : GO-LOCTM
4	Strength Testing (A)	M2	Non-TIMP Strength Testing	LOCTM-M003	MC1, JTC	75N, 75R, JTB, JTC, MC1	7	7-18	7-26, 7-27	7-23	7-28	7-29 to 7-30	June 30, 2020: RAMP_Ch 7_WP Pkq	July 17, 2020: GO-LOCT	5	5-137 to 5-145	5-145	5-52 to 5-71	WP 3-14	Data Response ED_001_Supp001 : GO-LOCTM
5	Valve Automation	M4	Valve Automation	LOCTM-M004	75I	75I	7	7-18	7-26, 7-27	7-24	7-28	7-29 to 7-30	June 30, 2020: RAMP_Ch 7_WP Pkq	July 17, 2020: GO-LOCT	5	5-137 to 5-145	5-145	5-97 to 5-99	WP 3-14	Data Response ED_001_Supp001 : GO-LOCTM
6	ILI Upgrades	M1	Traditional ILI Upgrades	LOCTM-M005	98C	98C	7	7-18	7-26, 7-27	7-22 to 7-23	7-28	7-29 to 7-30	June 30, 2020: RAMP_Ch 7_WP Pkq	July 17, 2020: GO-LOCT	5	5-137 to 5-145	5-145	5-22 to 5-29	WP 3-14	Data Response ED_001_Supp001 : GO-LOCTM

(A): JTC is used in the risk modeling but is not requested or recovered in the GRC.

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Loss of Containment on Distribution Main or Service

2020 RAMP Report													2023 GRC							
		2020 RAMP RISK ID			2020 RAMP MAT	2023 GRC MAT	2020 RAMP Ch.			Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Mitigation Analysis	Financial Workpapers	Modeling Workpapers	2023 GRC Exh. 3, Ch.	RAMP to GRC Risk Integration	Mitigation Forecast Costs and RSEs	Mitigation Description	Financial Workpapers	Modeling Workpapers
1	Pipeline Replacement Program (Steel)	M5	Pipeline Replacement Program (Steel)	LOCDM-M001	14A	14A	8	8-23	8-33, 8-35	8-32	8-37	8-38 to 8-40	June 30, 2020: RAMP_Ch 8_WP Pka	July 17, 2020: GO-LOCD	4	4-39 to 4-43	4-43	4-27 to 4-30, 4-40	WP 3-10	Data Response ED_001_Supp001 : GO-LOCDM
2	Pipeline Replacement Program (Plastic)	M6	Pipeline Replacement Program (Plastic)	LOCDM-M002	14D	14D	8	8-23	8-33, 8-35	8-32	8-37	8-38 to 8-40	June 30, 2020: RAMP_Ch 8_WP Pka	July 17, 2020: GO-LOCD	4	4-39 to 4-43	4-43	4-27 to 4-30, 4-40	WP 3-10	Data Response ED_001_Supp001 : GO-LOCDM
3	Enhanced CP Survey and Unprotected Main Evaluation	M3	Enhanced CP Survey and Unprotected Main Evaluation	LOCDM-M003	DGD	DGD	8	8-23	8-33	8-28, 8-32	8-36	N/A	June 30, 2020: RAMP_Ch 8_WP Pka	July 17, 2020: GO-LOCD	9	9-68 to 9-69	9-73	9-17 to 9-18	WP 3-10	Data Response ED_001_Supp001 : GO-LOCDM
4	New Valve Installations	M2	New Valve Installations	LODCM-M004	50E	50R	8	8-23	8-33, 8-35	8-32	8-37	8-38 to 8-40	June 30, 2020: RAMP_Ch 8_WP Pka	July 17, 2020: GO-LOCD	4	4-39 to 4-43	4-43	4-35 to 4-39, 4-40	WP 3-10	Data Response ED_001_Supp001 : GO-LOCDM
5	Mechanical Fitting Replacement Program	M9	Fitting Mitigation Program	LOCDM-M005	JQG	JQG	8	8-23	8-33, 8-35	8-32	8-36	N/A	June 30, 2020: RAMP_Ch 8_WP Pka	July 17, 2020: GO-LOCD	4	4-39 to 4-43	4-43	4-10 to 4-27, 4-40	WP 3-10	Data Response ED_001_Supp001 : GO-LOCDM
6	Cross Bore Program (or Cross Bore Legacy Inspection Program)	M7	Cross Bored Sewer Project	LOCDM-M006	JQK	JQK	8	8-23	8-33, 8-35	8-28, 8-32	8-36	8-38 to 8-40	June 30, 2020: RAMP_Ch 8_WP Pka	July 17, 2020: GO-LOCD	4	4-39 to 4-43	4-43	4-10 to 4-27, 4-40	WP 3-10	Data Response ED_001_Supp001 : GO-LOCDM
7	N/A		Copper Service Replacements	LOCDM-M007	N/A	14B	8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	4-33 to 4-34	4-43	4-33 to 4-35	WP 3-10	Data Response ED_001_Supp001 : GO-LOCDM
8	Electrically-Connected Isolated Steel Service (ECISS) Program	M4	N/A - Became a control	LOCDM-C022	DGE	DGE	8	8-23	8-33, 8-35	8-28, 8-38	8-36	8-38 to 8-40	June 30, 2020: RAMP_Ch 8_WP Pkg	July 17, 2020: GO-LOCD	9	N/A	N/A	N/A	WP 3-9	Data Response ED_001_Supp001 : GO-LOCDM
9	Fitting Mitigation Program	M8	N/A - Became a control	LOCDM-C011	JQD	JQD	8	8-23	8-33, 8-35	8-34	8-36	N/A	June 30, 2020: RAMP_Ch 8_WP Pka	July 17, 2020: GO-LOCD	4	N/A	N/A	N/A	WP 3-8	Data Response ED_001_Supp001 : GO-LOCDM

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Large Overpressure Event Downstream of Measurement and Control Facility

2020 RAMP Report													2023 GRC							
Line No.	2020 RAMP Mitigation Name	2020 RAMP RISK ID	2023 GRC Mitigation Name	2023 GRC RISK ID	2020 RAMP MAT	2023 GRC MAT	2020 RAMP Ch.	Mitigation Mapping Table	Mitigations: Planned Units of Work	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Mitigation Analysis	Financial Workpapers	Modeling Workpapers	2023 GRC Exh. 3, Ch.	RAMP to GRC Risk Integration	Mitigation Forecast Costs and RSEs	Mitigation Description	Financial Workpapers	Modeling Workpapers
								9-19	9-24, 9-26	9-22 to 9-23	9-27	9-28	June 30, 2020: RAMP_Ch 9_WP Pkq	July 17, 2020: GO-OP						
1	SCADA Visibility	M3	GT SCADA Visibility	LRGOP-M001	76M	76M	9	9-19	9-24, 9-26	9-22 to 9-23	9-27	9-28	June 30, 2020: RAMP_Ch 9_WP Pkq	July 17, 2020: GO-OP	11	11-66 to 11-67	11-73	11-57 to 11-59	WP 3-20	Data Response ED_001_Supp001 : GO-LRGOP
2	Station OPP Enhancements	M4	GT Overpressure Protection	LRGOP-M002	76G, 50N	76G, JTX	9	9-19	9-24, 9-26	9-23	9-27	9-28	June 30, 2020: RAMP_Ch 9_WP Pkq	July 17, 2020: GO-OP	6	6-88 to 6-94	6-93 to 6-94	6-90	WP 3-20	Data Response ED_001_Supp001 : GO-LRGOP
3	Station OPP Enhancements	M4	GD Overpressure Protection	LRGOP-M003	JTX, FHQ	50N, FHQ	9	9-19	9-24, 9-26	9-23	9-27	9-28	June 30, 2020: RAMP_Ch 9_WP Pkq	July 17, 2020: GO-OP	6	6-88 to 6-94	6-93 to 6-94	6-90	WP 3-20	Data Response ED_001_Supp001 : GO-LRGOP
4	Critical Documents Program	M1	Critical Documents Program	LRGOP-M004	LU1	LU1	9	9-19	9-24, 9-26	9-21	9-27	9-28	June 30, 2020: RAMP_Ch 9_WP Pkq	July 17, 2020: GO-OP	6	6-88 to 6-94	6-93 to 6-94	6-90	WP 3-20	Data Response ED_001_Supp001 : GO-LRGOP
5	HPR Replacement	M2	HPR Program	LRGOP-M005	2K	2K	9	9-19	9-24, 9-26	9-21 to 9-22	9-27	9-28	June 30, 2020: RAMP_Ch 9_WP Pkq	July 17, 2020: GO-OP	6	6-88 to 6-94	6-93 to 6-94	6-90	WP 3-20	Data Response ED_001_Supp001 : GO-LRGOP
6	SCADA Visibility	M3	SCADA Service Monitor	LRGOP-M006	4AF	4AF	9	9-19	9-24, 9-26	9-22 to 9-23	9-27	9-28	June 30, 2020: RAMP_Ch 9_WP Pkq	July 17, 2020: GO-OP	11	11-66 to 11-67	11-73	11-33	WP 3-20	Data Response ED_001_Supp001 : GO-LRGOP
7	SCADA Visibility	M3	Regulator Station Monitor Dual No Flow	LRGOP-M007	4AM	4AM	9	9-19	9-24, 9-26	9-22 to 9-23	9-27	9-28	June 30, 2020: RAMP_Ch 9_WP Pkq	July 17, 2020: GO-OP	11	11-66 to 11-67	11-73	11-33 to 11-34	WP 3-20	Data Response ED_001_Supp001 : GO-LRGOP

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Wildfire

Line No.	2020 RAMP Mitigation Name	2020 RAMP RISK ID	2023 GRC Mitigation Name	2023 GRC RISK ID	2020 RAMP MAT	2023 GRC MAT	2020 RAMP Ch.	2020 RAMP Report							2023 GRC						
								Mitigation Mapping Table	Mitigations: Planned Units of Work	2017 RAMP Update	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Mitigation Analysis	Financial Workpapers	Modeling Workpapers	2023 GRC Exh. 4, Ch.	RAMP to GRC Risk Integration	Mitigation Forecast Costs and RSEs	Mitigation Description	Financial Workpapers	Modeling Workpapers
1	Enhanced Vegetation Management	M1	Enhanced Vegetation Management	WLDFR-M001	IG#	IGJ	10	10-25 to 10-27	10-55, 10-59	10-47	10-34 to 10-35, 10-49 to 10-50	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	9	9-9 to 9-14	9-14 to 9-15	9-24 to 9-31	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
2	System Hardening	M2	System Hardening	WLDFR-M002	08W	08W	10	10-25 to 10-27	10-55, 10-59	10-47 to 10-48	10-35 to 10-36, 10-50	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.3	4.3-6 to 4.3-16	4.3-16 to 4.3-18	4.3-19 to 4.3-29	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
3	Non-Exempt Surge Arrester Replacement	M3	Non-Exempt Surge Arrester Replacement	WLDFR-M003	2AR	2AR	10	10-25 to 10-27	10-55	10-47	10-36 to 10-37, 10-50, 10-58	10-60 to 10-61	N/A	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	11	11-11 to 11-15	11-21	11-27 to 11-28	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
4	Expulsion Fuse Replacement	M4	Expulsion Fuse Replacement	WLDFR-M004	2AP	2AP	10	10-25 to 10-27	10-55, 10-59	N/A	10-37	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.3	4.3-6 to 4.3-16	4.3-16 to 4.3-18	4.3-29 to 4.3-31	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
5	Public Safety Power Shutoff (PSPS)	M5	Public Safety Power Shutoff	WLDFR-M005	AB#, IG#	AB#, AB6	10	10-25 to 10-27	10-55, 10-59	N/A	10-37 to 10-38	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.2	4.2-10 to 4.2-16	4.2-17 to 4.2-18	4.19 to 4.22	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
6	PSPS Program and Reduction Initiatives (Expense)	M6	PSPS Program and Reduction Initiatives (Expense) (A)	WLDFR-M006	IG#	AB6, IG#	10	10-25 to 10-27	10-55, 10-59	N/A	10-38 to 10-41, 10-50 to 10-52	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.2, 4.3	4.2-10 to 4.2-16	4.2-17 to 4.2-18, 4.3-16 to 4.3-18	4.22 to 4.29, 4.3-44	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
7	PSPS Program and Reduction Initiatives (Capital)	M6	PSPS Program and Reduction Initiatives (Capital) (A)	WLDFR-M006	21#, 49H, 49M	21A, 49H, 49M	10	10-25 to 10-27	10-55, 10-59	N/A	10-38 to 10-41, 10-50 to 10-52	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.2, 4.3	4.2-10 to 4.2-16	4.2-17 to 4.2-18, 4.3-16 to 4.3-18	4.22 to 4.29, 4.3-45 to 4.3-48	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
8	Situational Awareness and Forecasting Initiatives - Expense	M7	Situational Awareness and Forecasting Initiatives - Expense (A)	WLDFR-M007A to WLDFR-M007K	IG#	AB6, FZA, HG#	10	10-25 to 10-27	10-55, 10-59	N/A	10-41 to 10-43, 10-52 to 10-53	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.1, 4.3	4.1-6 to 4.1-10, 4.3-6 to 4.3-16	4.1-11 to 4.1-12, 4.3-16 to 4.3-18	Ch. 4.1, Section C, 4.3-38 to 4.3-40	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
9	Situational Awareness and Forecasting Initiatives - Capital	M7	Situational Awareness and Forecasting Initiatives - Capital (A)	WLDFR-M007A, B, C, F, G, I, J, WLDFR-M011, WLDFR-M012	21A, 49I	21A, 49I	10	10-25 to 10-27	10-55, 10-59	N/A	10-41 to 10-43	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.1, 4.3	4.1-6 to 4.1-10, 4.3-6 to 4.3-16	4.1-11 to 4.1-12, 4.3-16 to 4.3-18	Ch. 4.1, Section C, 4.3-38 to 4.3-40	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
10	Safety and Infrastructure Protection Teams	M8	Safety and Infrastructure Protection Teams	WLDFR-M008	IG#, 21A	AB6, 21A	10	10-25 to 10-27	10-55, 10-59	N/A	10-43, 10-53	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.1	4.1-6 to 4.1-10, 4.3-6 to 4.3-16	4.1-11 to 4.1-12	4.1-33	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
11	Community Wildfire Safety Program Project Management Office	M9	Community Wildfire Safety Program Project Management Office	WLDFR-M009	IG#	AB6	10	10-25 to 10-27	10-55, 10-59	N/A	10-43	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.4	4.4-6 to 4.4-7	4.4-8	4.4-8 to 4.4-10	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
12	Additional System Automation and Protection (Expense)	M10	Additional System Automation and Protection (Expense)	WLDFR-M10A	AT, IG	AB6	10	10-25 to 10-27	10-55, 10-59	N/A	10-43 to 10-45	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.3	4.3-6 to 4.3-16	4.3-16 to 4.3-18	4.3-31 to 4.3-32	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
13	Additional System Automation and Protection (Capital)	M10	Additional System Automation and Protection (Capital) (A)	WLDFR-M10A to WLDFR-M10C	09A, 49T	49A, 49T, 49R	10	10-25 to 10-27	10-55, 10-59	N/A	10-43 to 10-45	10-60 to 10-61	10-62 to 10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.3	4.3-6 to 4.3-16	4.3-16 to 4.3-18	4.3-31 to 4.3-32 to 4.3-35, 4.3-40 to 4.3-41	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
14	Remote Grid (Capital)	M11	Remote Grid (Capital)	WLDFR-M017	49M	(B)	10	10-25 to 10-27	10-55	N/A	10-53 to 10-54	10-60 to 10-61	10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.3	4.3-6 to 4.3-16	4.3-16 to 4.3-18	4.3-27 to 4.3-28	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR
15	Remote Grid (Expense)	M11	Remote Grid (Expense)	WLDFR-M017	N/A	AB#, KAT	10	10-25 to 10-27	10-55	N/A	10-53 to 10-54	10-60 to 10-61	10-65	June 30, 2020: RAMP_Ch 10_WP_Pkg	July 17, 2020: EO-WF	4.3	4.3-6 to 4.3-16	4.3-16 to 4.3-18	4.3-27 to 4.3-28	WP 3-4 and WP 3-6	Data Response ED_001_Supp001 : EO_WLDFR

Notes:

(A) See Exhibit (PG&E-3) WP 3-20 for a list of the initiatives that make up this program.

(B) PG&E is forecasting expense amounts related to the Remote Grid pilot projects. The expense amounts cover costs for the Remote Grid team and operations and maintenance.

For the purposes of risk modeling PG&E is assigning estimated capital costs for remote grid pilot projects for each year 2020-2026. To the extent a remote grid project is conducted the capital funding will come from MAT 08W.

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Failure of Electric Distribution Overhead Assets

Line No.	2020 RAMP Mitigation Name	2020 RAMP RISK ID	2023 GRC Mitigation Name	2023 GRC RISK ID	2020 RAMP MAT	2023 GRC MAT	2020 RAMP Ch.	2020 RAMP Report							2023 GRC						
								Mitigation Mapping Table	Mitigations: Planned Units of Work	2017 RAMP Update	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Mitigation Analysis	Financial Workpapers	Modeling Workpapers	2023 GRC Exh. 4, Ch.	RAMP to GRC Risk Integration	Mitigation Forecast Costs and RSEs	Mitigation Description	Financial Workpapers	Modeling Workpapers
1	Enhanced Vegetation Management	M1	Enhanced Vegetation Management	DOVHD-M001	IG#	IGJ	11	11-17	11-31, 11-36	11-26	11-22, 11-28	11-37	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	9	9-9 to 9-14	9-14 to 9-15	9-24 to 9-31	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
2	System Hardening	M2	System Hardening	DOVHD-M002	08W	08W	11	11-17	11-31, 11-36	11-26	11-22, 11-28, 11-35	11-38	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	4.3	4.3-6 to 4.3-16	4.3-16 to 4.3-18	4.3-19 to 4.3-29	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
3	Non-Exempt Surge Arrester Replacement	M3	Non-Exempt Surge Arrester Replacement	DOVHD-M003	2AR	2AR	11	11-17	11-31, 11-36	11-26	11-23, 11-35	11-32, 11-38	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	11	11-11 to 11-15	11-21	11-27 to 11-28	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
4	Expulsion Fuse Replacement	M4	Expulsion Fuse Replacement	DOVHD-M004	2AP	2AP	11	11-17	11-31, 11-36	11-26	11-23	11-38	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	4.3	4.3-6 to 4.3-16	4.3-16 to 4.3-18	4.3-29 to 4.3-31	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
5	Additional Asset Data Capture	M5	Additional Asset Data Capture	DOVHD-M005	AB#	AB#	11	11-17	11-31, 11-36	11-26	11-24	11-32, 11-37	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	3	3-35 and 3-45 to 3-47	3-50	3-46	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
6	Grasshopper and KPF Switch Replacemer	M6	Grasshopper and KPF Switch Replacement	DOVHD-M006	08S	08S	11	11-17	11-31, 11-36	11-26	11-24, 11-28, 11-35	11-32, 11-38	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	13	13-18 to 13-23	13-27	13-31 to 13-32	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
7	Regulated Output Streetlight Replacement	M7	Regulated Output Streetlight Replacement	DOVHD-M007	2AG	2AG	11	11-17	11-31, 11-36	11-26	11-24, 11-28, 11-35	11-32, 11-38	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	11	11-11 to 11-15	11-21	11-25	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
8	Ceramic Post Insulator Replacement	M8	Ceramic Post Insulator Replacement	DOVHD-M008	2AQ	2AQ	11	11-17	11-31, 11-36	11-26	11-25	11-32, 11-38	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	11	11-11 to 11-15	11-21	11-29 to 11-30	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
9	Improved Distribution Risk Model	M9	Improved Distribution Risk Model	DOVHD-M009	AB#	AB#	11	11-17	11-31, 11-36	11-26	11-28	11-32, 11-37	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	3	3-45 to 3-47	3-50	3-47	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
10	3A and 4C Line Recloser Replacement	M10	3A and 4C Line Recloser Replacement	DOVHD-M010	49B	49A, 49B	11	11-17	11-31, 11-36	11-26	11-29, 11-35	11-32, 11-38	11-39 to 11-40	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	13	13-18 to 13-23	13-27	13-46 to 13-47	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD
11	Remote Grid	M11	System Hardening - Remote Grid (A)	DOVHD-M011	49M	AB#, KAT	11	11-17	11-31	11-26	11-30, 11-40	11-41	N/A	June 30, 2020: RAMP_Ch 11_WP_Pkg	July 17, 2020: EO-DOH	4.3	4.3-6 to 4.3-9	4.3-16 to 4.3-18	4.3-19 to 4.3-27	WP 3-10	Data Response ED_001_Supp001 : EO_DOVHD

Note (A):

Remote Grid was an alternate mitigation in RAMP (M11a). PG&E planned to pilot the project in 2020 and, if successful, implement remote grid as a mitigation 2023-2026. Estimated costs for the potential mitigation were provided in workpapers (\$5.11M in 2023, \$5.24M in 2024, \$5.37M in 2025 and \$5.51M in 2026) and the proposed pace of the work would be similar to the pilot project at 25 miles removed per year. No estimated cost for 2020 was included in the RAMP Report.

PG&E is forecasting expense amounts related to the Remote Grid pilot projects. The expense amounts cover costs for the Remote Grid team and operations and maintenance. For the purposes of risk modeling PG&E is assigning estimated capital costs for remote grid pilot projects for each year 2020-2026. To the extent a remote grid project is conducted the capital funding will come from MAT 08W.

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Failure of Electric Distribution Network Assets

								2020 RAMP Report							2023 GRC					
		2020 RAMP			2020 RAMP	2023 GRC	2020	Mitigation Mapping Table	Mitigations: Planned	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Mitigation Analysis	Financial Workpapers	Modeling Workpapers	2023 GRC	RAMP to GRC	Mitigation Forecast Costs and RSEs	Mitigation Description	Financial Workpapers	Modeling Workpapers
Line No.	2020 RAMP Mitigation Name	RISK ID	2023 GRC Mitigation Name	2023 GRC RISK ID	MAT	RAMP Ch.		Units of Work							Exh. 4, Ch.	Risk Integration				
1	Network Component Replacements - Targeted Replacement of Oil-Filled Transformers in High-Rise Buildings	M1	Network Component Replacements - Targeted Replacement of Oil Filled Transformers in High-Rise Buildings	DNTWK-M001	2CC	2CC	12	N/A	12-15	12-13, 12-15	12-19	12-20 to 12-21	June 30, 2020: RAMP_Ch 12_WP_Pkg	July 17, 2020: EO-DNTWK	14	14-7 to 14-8	14-12	14-14	WP 3-12	Data Response ED_001_Supp001 : EO_DNTWK
2	Venting Manhole Cover Replacements	M2	Venting Manhole Cover Replacements	DNTWK-M002	2CD	2CD	12	N/A	12-15	12-13 to 12-14, 12-15	12-19	N/A	June 30, 2020: RAMP_Ch 12_WP_Pkg	July 17, 2020: EO-DNTWK	14	14-7 to 14-8	14-12	14-16 to 14-17	WP 3-12	Data Response ED_001_Supp001 : EO_DNTWK
3	Installation of SCADA Equipment for Safety Monitoring	M3	Installation of SCADA Equipment for Safety Monitoring	DNTWK-M003	2CE	2CE	12	N/A	12-15, 12-18	12-14, 12-15	12-19	12-20 to 12-21	June 30, 2020: RAMP_Ch 12_WP_Pkg	July 17, 2020: EO-DNTWK	14	14-7 to 14-8	14-12	14-17 to 14-18	WP 3-12	Data Response ED_001_Supp001 : EO_DNTWK
4	Incremental Primary Network Cable Replacements	M4	Incremental Primary Network Cable Replacements	DNTWK-M004	56N	56N	12	N/A	12-18	12-17	12-19	12-20 to 12-21	June 30, 2020: RAMP_Ch 12_WP_Pkg	July 17, 2020: EO-DNTWK	14	14-7 to 14-8	14-12	14-20 to 14-21	WP 3-12	Data Response ED_001_Supp001 : EO_DNTWK
5	Network Component Replacements - Targeted Replacement of Dry-Type Transformers in High-Rise Buildings	M5	Network Component Replacements - High-Rise Dry-Type Transformers	DNTWK-M005	2CC	2CC	12	N/A	12-18	12-17	12-19	12-20 to 12-21	June 30, 2020: RAMP_Ch 12_WP_Pkg	July 17, 2020: EO-DNTWK	14	14-7 to 14-8	14-12	14-14 to 14-15	WP 3-12	Data Response ED_001_Supp001 : EO_DNTWK
6	Network Component Replacements - Targeted Replacement of CMD-Type Network Protectors	M6	Network Component Replacements - Targeted Replacement of CMD-Type Network Protectors	DNTWK-M006	2CC	2CC	12	N/A	12-18	12-17	12-19	12-20 to 12-21	June 30, 2020: RAMP_Ch 12_WP_Pkg	July 17, 2020: EO-DNTWK	14	14-7 to 14-8	14-12	14-15	WP 3-12	Data Response ED_001_Supp001 : EO_DNTWK

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Large Uncontrolled Water Release

										2020 RAMP Report					2023 GRC						
			2020 RAMP				2020 RAMP	2023 GRC	2020	Mitigation Mapping Table	2017 RAMP Update	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Financial Workpapers	Modeling Workpapers	2023 GRC Exh. 5, Ch.	RAMP to GRC Risk Integration	Mitigation Forecast Costs and RSEs	Mitigation Description	Financial Workpapers	Modeling Workpapers
Line No.	2020 RAMP Mitigation Name		RISK ID	2023 GRC Mitigation Name		2023 GRC RISK ID	MWC	MWC	RAMP Ch.												
1	Internal Erosion Mitigations		M1	Internal Erosion Mitigations		LGUWR-M001	2LR, 2NR	2L, 2N	13	13-20	13-25	13-30	13-32	June 30, 2020: RAMP_Ch 13_WP_Pkg	July 17, 2020: PGEN-DAMS	2, 4	4-33	2-12 to 2-13, 4-35	2-10, 4-34	WP 2-2, WP 2-13	Data Response ED_001_Supp001 : PGEN_LGUWR
2	Spillway Remediations		M2	Spillway Remediations		LGUWR-M002	2LR, 2NR	2L, 2N, 3H	13	13-20	13-25	13-22 to 13-23, 13-28, 13-30	13-32	June 30, 2020: RAMP_Ch 13_WP_Pkg	July 17, 2020: PGEN-DAMS	2, 4	4-33	2-12 to 2-13, 4-35	2-10, 4-34	WP 2-2, WP 2-13	Data Response ED_001_Supp001 : PGEN_LGUWR
3	Seismic Retrofit		M3	Seismic Retrofit		LGUWR-M003	2LR	2L, 2N	13	13-20	13-25 to 13-26	13-23 to 13-24, 13-28, 13-30	13-32	June 30, 2020: RAMP_Ch 13_WP_Pkg	July 17, 2020: PGEN-DAMS	2, 4	4-33	2-12 to 2-13, 4-36	2-11, 4-35	WP 2-2, WP 2-13	Data Response ED_001_Supp001 : PGEN_LGUWR
4	Low-Level Outlet (LLO) Refurbishments		M4	Low-Level Outlet (LLO) Refurbishments		LGUWR-M004	2LR, 2NR	2L, 2N	13	13-20	13-26	13-24, 13-28 to 13-29, 13-30	13-32	June 30, 2020: RAMP_Ch 13_WP_Pkg	July 17, 2020: PGEN-DAMS	2, 4	4-33	2-12 to 2-13, 4-36	2-11, 4-35	WP 2-2, WP 2-13	Data Response ED_001_Supp001 : PGEN_LGUWR

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Real Estate and Facilities Failure

Line No.	2020 RAMP Mitigation Name	2020 RAMP RISK ID	2023 GRC Mitigation Name	2023 GRC RISK ID	2020 RAMP MWC	2023 GRC MWC	2020 RAMP Ch.	2020 RAMP Report						2023 GRC					
								Mitigation Mapping Table	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Mitigation Analysis	Financial Workpapers	Modeling Workpapers	2023 GRC Exh. 7, Ch.	RAMP to GRC Risk Integration	Mitigation Forecast Costs and RSEs	Mitigation Description	Financial Workpapers	Modeling Workpapers
1	Renovate or Relocate Facilities Other than SFGO	M6	Renovate or Relocate Facilities Other than SFGO	REFFL-M006	BI, 22	BI, 22	14	14-14	14-17 to 14-19, 14-20	14-21	14-22	June 30, 2020: RAMP_Ch 14_WP_Pkg	July 17, 2020: CRESS_REFFL	5	5-26	5-32	5-31 to 5-32	WP 5-167	Data Response ED_001_Supp001 : REFFL

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Third Party Safety Incident

								2020 RAMP Report					2023 GRC			
Line No.	2020 RAMP Mitigation Name	2020 RAMP	2023 GRC Mitigation Name	2023 GRC RISK ID	2020 RAMP	2023 GRC	2020	Mitigation Mapping Table	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Financial Workpapers	Modeling Workpapers	2023 GRC	Mitigation Forecast Costs and RSEs	Financial Workpapers	Modeling Workpapers
		RISK ID			MWC	MWC	RAMP Ch.						Exh. 7, Ch.			
1	Canals and Waterways Safety Barriers	M4	Canals and Waterways Safety Barriers	TPTSI-M004	FL	FL	15	15-17	15-27	15-31	June 30, 2020: RAMP_Ch 15 WP Pkq	July 17, 2020: SHED-TPSI	1	1-31	WP 1-32	Data Response ED_001_Supp001 : EHS-MTRSI

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Employee Safety Incident

								2020 RAMP Report					2023 GRC			
		2020 RAMP RISK ID			2020 RAMP MWC	2020 RAMP Ch.		Mitigation Mapping Table	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Financial Workpapers	Modeling Workpapers	2023 GRC Exh. 7, Ch.	Mitigation Forecast Costs and RSEs	Financial Workpapers	Modeling Workpapers
Line No.	2020 RAMP Mitigation Name		2023 GRC Mitigation Name	2023 GRC RISK ID	MWC	2020 RAMP Ch.										
1	M1B-Enterprise Safety Management System	M1b	Enterprise Safety Management Systems Implementation	EMPSI-M01B	FL	FL/AB	16	16-17 to 16-19	16-27 to 16-28	16-33	June 30, 2020: RAMP_Ch 16_WP_Pkg	July 17, 2020: SHED-ESI	1	1-34	WP 1-36	Data Response ED_001_Supp001 : EHS-EMPSI
2	Office Ergonomics Program	M6a	Office Ergonomics Program	EMPSI-M06a	FL/ZC	FL/ZC	16	16-17 to 16-19	16-29	16-33	June 30, 2020: RAMP_Ch 16_WP_Pkg	July 17, 2020: SHED-ESI	1	1-34	WP 1-36	Data Response ED_001_Supp001 : EHS-EMPSI
3	Industrial Ergonomics Program	M6b	Industrial Ergonomics Program	EMPSI-M06b	FL/ZC	FL/ZC	16	16-17 to 16-19	16-29 to 16-30	16-33	June 30, 2020: RAMP_Ch 16_WP_Pkg	July 17, 2020: SHED-ESI	1	1-34	WP 1-36	Data Response ED_001_Supp001 : EHS-EMPSI
4	Industrial Athlete Program	M6c	Industrial Athlete Program	EMPSI-M06c	FL/ZC	FL/ZC	16	16-17 to 16-19	16-30	16-33	June 30, 2020: RAMP_Ch 16_WP_Pkg	July 17, 2020: SHED-ESI	1	1-34	WP 1-36	Data Response ED_001_Supp001 : EHS-EMPSI
5	Vehicle Ergonomics Program	M6d	Vehicle Ergonomics Program	EMPSI-M06d	FL/ZC	FL/ZC	16	16-17 to 16-19	16-30	16-33	June 30, 2020: RAMP_Ch 16_WP_Pkg	July 17, 2020: SHED-ESI	1	1-34	WP 1-36	Data Response ED_001_Supp001 : EHS-EMPSI
6	On-Site Clinics	M11	On-Site Clinics	EMPSI-M011	ZC	ZC	16	16-17 to 16-19	16-30	16-33	June 30, 2020: RAMP_Ch 16_WP_Pkg	July 17, 2020: SHED-ESI	1	1-34	WP 1-36	Data Response ED_001_Supp001 : EHS-EMPSI
7	Enhancing SafetyNet Use	M13	Enhancing SafetyNet Use	EMPSI-M013	FL	FL	16	16-17 to 16-19	16-28,	16-33	June 30, 2020: RAMP_Ch 16_WP_Pkg	July 17, 2020: SHED-ESI	1	1-34	WP 1-36	Data Response ED_001_Supp001 : EHS-EMPSI
8	Industrial Hygiene Program Compliance Improvements - Phase 1	M14	Industrial Hygiene Program Compliance Improvements - Phase 1	EMPSI-M014	FL	FL	16	16-17 to 16-19	16-28 to 16-29	16-33	June 30, 2020: RAMP_Ch 16_WP_Pkg	July 17, 2020: SHED-ESI	1	1-34	WP 1-36	Data Response ED_001_Supp001 : EHS-EMPSI
9	Fit 4 U Pilot	M16	Fit 4 U Program	EMPSI-M016	ZC	ZC	16	16-17 to 16-19	16-29	16-33	June 30, 2020: RAMP_Ch 16_WP_Pkg	July 17, 2020: SHED-ESI	1	1-34	WP 1-36	Data Response ED_001_Supp001 : EHS-EMPSI

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Contractor Safety Incident

Line No.	2020 RAMP Mitigation Name	2020 RAMP RISK ID	2023 GRC Mitigation Name	2023 GRC RISK ID	2020 RAMP MWC	2023 GRC MWC	2020 RAMP Ch.	2020 RAMP Report					2023 GRC			
								Mitigation Mapping Table	Mitigation Plans and Changes to Mitigations	Mitigation Estimated Costs and RSEs	Financial Workpapers	Modeling Workpapers	2023 GRC Exh. 7, Ch.	Mitigation Forecast Costs and RSEs	Financial Workpapers	Modeling Workpapers
1	Safety Scorecard	M11a	Safety Scorecard	CNTSI-M11a	FL	FL	17	17-15 to 17-16	17-24	17-27	June 30, 2020: RAMP_Ch 17_WP_Pkg	July 17, 2020: SHED-CSI	1	1-39	WP 1-40	Data Response ED_001_Supp001 : EHS_CNTSI
2	Work Permits	M11b	Work Permits	CNTSI-M11b	FL	FL	17	17-15 to 17-16	17-25, 17-26	17-27	June 30, 2020: RAMP_Ch 17_WP_Pkg	July 17, 2020: SHED-CSI	1	1-39	WP 1-40	Data Response ED_001_Supp001 : EHS_CNTSI
3	Contractor On-Boarding	M13	Contractor On-Boarding	CNTSI-M013	FL	FL	17	17-15 to 17-16	17-25	17-27	June 30, 2020: RAMP_Ch 17_WP_Pkg	July 17, 2020: SHED-CSI	1	1-39	WP 1-40	Data Response ED_001_Supp001 : EHS_CNTSI
4	Contractor Safety Handbook	M15	Contractor Safety Handbook	CNTSI-M015	FL	FL	17	17-15 to 17-16	17-25	17-27	June 30, 2020: RAMP_Ch 17_WP_Pkg	July 17, 2020: SHED-CSI	1	1-39	WP 1-40	Data Response ED_001_Supp001 : EHS_CNTSI
5	Tracking Contractor Workers	M16	Tracking Contractor Workers	CNTSI-M016	FL	FL	17	17-15 to 17-16	17-25, 17-27	17-27	June 30, 2020: RAMP_Ch 17_WP_Pkg	July 17, 2020: SHED-CSI	1	1-39	WP 1-40	Data Response ED_001_Supp001 : EHS_CNTSI
6	OSHA Programs Training Requirements	M17	OSHA Programs Training Requirements	CNTSI-M017	FL	FL	17	17-15 to 17-16	17-25	17-27	June 30, 2020: RAMP_Ch 17_WP_Pkg	July 17, 2020: SHED-CSI	1	1-39	WP 1-40	Data Response ED_001_Supp001 : EHS_CNTSI
7	Contractor Safety Officer Criteria	M18	Contractor Safety Officer Criteria	CNTSI-M018	FL	FL	17	17-15 to 17-16	17-26	17-27	June 30, 2020: RAMP_Ch 17_WP_Pkg	July 17, 2020: SHED-CSI	1	1-39	WP 1-40	Data Response ED_001_Supp001 : EHS_CNTSI

PG&E's 2020 Risk Assessment and Mitigation Phase
Mapping of Mitigations from the 2020 RAMP Report to the 2023 GRC

RAMP RISK: Motor Vehicle Safety Incident

								2020 RAMP Report					2023 GRC			
		2020 RAMP			2020 RAMP	2023 GRC	2020	Mitigation Plans and Changes to	Mitigation Estimated Costs and	Financial	Modeling	2023 GRC	Mitigation	Financial	Modeling	
Line No.	2020 RAMP Mitigation Name	RISK ID	2023 GRC Mitigation Name	2023 GRC RISK ID	MWC	MWC	RAMP Ch.	Mapping Table	RSEs	Workpapers	Workpapers	Exh. 7, Ch.	Forecast Costs and RSEs	Workpapers	Workpapers	
1	Update VST Installation and Activation	M2B	Update VST Installation and Activation	N/A	FL	FL	18	18-13 to 18-14	18-17	18-22	June 30, 2020: RAMP_Ch 18 WP Pkq	July 17, 2020: SHED-MVI	1	1-44	WP 1-44	Data Response ED_001_Supp001 : EHS-MTRSI
2	Post Incident Review	M14	Post Incident Review	MTRSI-M014	FL	FL	18	18-13 to 18-14	18-20	18-22	June 30, 2020: RAMP_Ch 18 WP Pkq	July 17, 2020: SHED-MVI	1	1-44	WP 1-44	Data Response ED_001_Supp001 : EHS-MTRSI
3	360 Walk Around App	M15	360 Walk Around App	MTRSI-M015	FL	FL	18	18-13 to 18-14	18-20	18-22	June 30, 2020: RAMP_Ch 18 WP Pkq	July 17, 2020: SHED-MVI	1	1-44	WP 1-44	Data Response ED_001_Supp001 : EHS-MTRSI
4	Safe Backing Training TECH-9161	M18	Safe Backing Training TECH-9161	MTRSI-M018	FL	FL	18	18-13 to 18-14	18-20	18-22	June 30, 2020: RAMP_Ch 18 WP Pkq	July 17, 2020: SHED-MVI	1	1-44	WP 1-44	Data Response ED_001_Supp001 : EHS-MTRSI
5	Cell Phone Activity Blocking	M19	Cell Phone Activity Blocking	MTRSI-M019	FL	FL	18	18-13 to 18-14	18-21	18-22	June 30, 2020: RAMP_Ch 18 WP Pkq	July 17, 2020: SHED-MVI	1	1-44	WP 1-44	Data Response ED_001_Supp001 : EHS-MTRSI

(End of Attachment B)